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# Intuitive faces down the competition



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The robotic surgery giant is finally being challenged by companies even bigger than itself.



For decades Intuitive Surgical has been the big beast of robotic surgery, orders of magnitude larger than rival makers of complex, multi-instrument surgical systems. Since late last year, however, it has had to contend with Medtronic, an even bigger group, after Medtronic's Hugo system was approved in Europe.

"We and other companies will be talking to the same customer about our products, and there'll be winners and losers," says Gary Guthart, Intuitive's chief executive. But many hospitals are so entrenched in what Mr Guthart refers to as Intuitive's "ecosystem" that it could be hard for competitors, even those as formidable as Medtronic, to break through.

Intuitive has had a hard couple of years, with Covid causing cessation or postponement of non-urgent procedures and supply chain difficulties that slowed production of its machines. Now these issues are easing the group can turn its attention to the new competition.

The company launched its first surgical robot, called da Vinci, in 2000 – the same year it floated on Nasdaq. It now makes four main surgical systems. The flagship is the da Vinci Xi, a complex system capable of performing a range of procedures from bariatric surgery and hernia repair to heart bypasses and prostatectomy.

A simpler form of the same system, the da Vinci X, is also on offer, and the final complex system is the da Vinci SP, whose various instruments are designed to enter through a single port, or incision.

The newest offering, Ion, is a departure. It is a much more focused device used solely for bronchoscopy, and requires no incisions, since the instruments enter via the patient's mouth. It is markedly cheaper than the other machines and does not belong in the same market segment, instead competing with systems like Johnson & Johnson's Monarch.

### Nimbler

Mr Guthart says this is a consequence of advances in diagnosis, permitting, for example, the removal of tumours when they are still small.

A shift towards nimbler machinery is indeed detectable. Medtronic's Hugo has a modular design, with each of the robotic arms mounted on a separate cart, so that the surgeon need not use all of them for more straightforward procedures. CMR Surgical's Versius, also on sale in Europe, has a similar design.

Selected major surgical robots				
Company	Market cap (\$m)	Robot	Status	Source
Intuitive Surgical	100,450	Da Vinci Xi	FDA-approved Apr 2014	In-house R&D
		Da Vinci X	FDA-cleared May 2017	
		Da Vinci SP	FDA-cleared Apr 2014	
Asensus Surgical (formerly Transenterix)	158	Senhance	FDA-cleared Oct 2017	\$100m acquisition of surgical robotics division of

Selected major surgical robots				
				Sofar in 2015
CMR Surgical	Private	Versius	CE-marked Mar 2019; US approval poss 2022	In-house R&D
Avatera Medical	Private	Avatera	CE-marked Nov 2019	In-house R&D
Medtronic	135,240	Hugo	CE-marked Oct 2021, US approval poss 2022	In-house R&D
Johnson & Johnson	430,060	Ottava	Approval possible 2026 (delayed from 2024)	Verb Surgical acquired in 2019
Vicarious Surgical	734	Vicarious Surgical System	In development	In-house R&D
Source: Evaluate Medtech & company websites.				

Still, even if this more flexible approach is appealing to surgeons these groups will have a tough time breaking through the edifice Intuitive has built over the past 20 years.

As well as leasing or buying the machines, which can cost up to \$2m, Intuitive's customers must pay for instruments and accessories, plus services and software, helping lock them in to Intuitive's "ecosystem".

The newest part of this is Intuitive's digital tools. Its My Intuitive app allows surgeons to view clinical videos, track their instrument uses and identify efficiencies, and its SimNow training programme includes a virtual reality component.

The group is also working on augmented reality technologies. These are all geared towards keeping users on side, rather than making money, Mr Guthart says. "The things we do digitally are never a real big source of revenue for us."

## Pricing

Medtronic and its fellows have largely rejected the notion of using lower prices to lure surgeons away from Intuitive's machines. Medtronic has already said the pricing for Hugo will be comparable with Intuitive's systems, and the German group Avatera, for instance, prices its machines at a similar level.

Even so, Intuitive's rivals have picked up some users. "There are always some customers who are interested in trying out new capabilities and new technologies, to be first," Mr Guthart says. But he adds that some surgeons, having tried other systems, have come back to Intuitive "after a year or so".

Realistically pricing is going to have to come into the calculation somewhere. Intuitive is just too well established in this segment for other players to make much headway without compromising on cost.

And Intuitive is fighting back. Mr Guthart says the company is working on a new robot, though he will not give details. He says going from no design at all to a system with 100 units in the field takes around a decade. J&J, a company bigger than Medtronic and Intuitive combined, plans to launch its general surgery robot, Ottava, in 2026, so Intuitive's new machine could debut into a world with another major competitor.

Intuitive will hold on to the number-one position in terms of robot sales, if not market cap, for some time – perhaps even another 20 years. But contesting this market will become harder once Medtronic and, eventually, J&J, begin to pick up customers. The question is how quickly, and how markedly, this segment will change.



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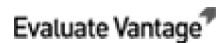
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